

ABSTRACT OF THE DISCLOSURE

An optical transmission system and optical transmission devices in the optical transmission system that can achieve a high quality transmission using considerably simple arrangements are disclosed. At a transmitting-end optical transmission device, encoding means having  $n$  outputs, forms  $k$  data by aligning phases of data on  $k$  channels with each other and for generating  $(n-k)$  error correction bits for said  $k$  data and adding said  $(n-k)$  error correction bits to said  $k$  data, and wavelength-multiplexing means connected to the encoding means, converts both said  $k$  data and said  $(n-k)$  error correction bits to  $n$  optical signals having different wavelengths and for wavelength-multiplexing said  $n$  optical signals so as to be delivered to the optical transmission line. At a receiving-end optical transmission device, wavelength-demultiplexing means separates the wavelength-multiplexed optical signals from the optical transmission line into  $n$  optical signals, each corresponding to one of the different wavelengths, and decoding means connected to the wavelength-multiplexing means, generates  $k$  error corrected data by correcting error bits using the  $(n-k)$  error correction bits contained in said  $n$  separated optical signals.